Why Do It?

• The primary restoration site for estuarine habitat in South OC.

• Provides habitat for native plants, birds, fish & other wildlife.

• Links the Blue Belt & Green Belt.

• Provides public access and interpretation for the restoration and scenic views.

• Enhances southern Gateway to Laguna.

• Provides outstanding public education & outreach opportunities.

• It’s a mess now.
## Aliso Creek Estuary Restoration Planning Process

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal Conservancy Grant Receipt</td>
<td>December 2014</td>
</tr>
<tr>
<td>Conceptual Restoration Plan Initiation</td>
<td>July 2015</td>
</tr>
<tr>
<td><strong>Public Presentation and Comment on Draft Restoration Plan</strong></td>
<td>October 2017</td>
</tr>
<tr>
<td>Draft Conceptual Restoration Plan Report</td>
<td>December 2017</td>
</tr>
<tr>
<td><strong>Public and Stakeholder Review and Comment on Draft Report</strong></td>
<td>Early January 2018</td>
</tr>
<tr>
<td>Final Conceptual Restoration Plan Report</td>
<td>Late January 2018</td>
</tr>
</tbody>
</table>
California Coastal Conservancy

LAGUNA OCEAN FOUNDATION

Science Advisory Team

**Eric Stein**, PhD, SCCWRP
Christine Whitecraft, PhD CSULB
David Jacobs, PhD, UCLA
Richard Ambrose, PhD, UCLA
Stacy Fejtek Smith, PhD, NOAA

ESA

**Nick Garrity**, PE Project Manager, Hydrologist & Engineer

Coastal Restoration Consultants
Matt James, Restoration Ecologist
**Historical Losses**

**Anticipated Future Losses**
Southern California Wetlands Recovery Project (WRP)  
(established 1997)

An alliance of federal, state, and local government agencies working cooperatively to promote regional wetland recovery and resiliency

State Partners
- California Natural Resources Agency
- State Coastal Conservancy
- California Coastal Commission
- California Department of Fish & Wildlife
- California Department of Parks & Recreation
- State Lands Commission
- Wildlife Conservation Board
- California Environmental Protection Agency
- State Water Resources Control Board
- Central Coast Regional Water Quality Control Board
- Los Angeles Regional Water Quality Control Board
- Santa Ana Regional Water Quality Control Board
- San Diego Regional Water Quality Control Board

Federal Partners
- U.S. Environmental Protection Agency
- National Marine Fisheries Service
- Natural Resources Conservation Service
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife
WRP Regional Strategy

Currently being updated based on
• New science
• Revised priorities
• Need to provide quantitative targets
Wetland Archetypes Underlie the Regional Strategy

- Small creek
- Small lagoon
- Intermittently open estuary
- Large perennially-open lagoon
- Large river valley estuary
- Fragmented river valley estuary
- Open bay/harbor
Regional Goals

- Preserve and restore resilient tidal wetlands and associated marine and terrestrial habitats.
- Preserve and restore stream corridors and other non-tidal wetland ecosystems to support healthy watersheds.
- Support education and compatible access related to coastal wetlands and watersheds.
- Advance the science of wetland restoration and management in Southern California.

*Aliso Estuary restoration supports all of these objectives*
Coastal Wetland Objectives

preserve and restore resilient coastal tidal wetlands and associated marine and terrestrial habitats that support ecosystem processes, functions and services

<table>
<thead>
<tr>
<th>Type</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abundance</td>
<td>Overall Wetland Area</td>
</tr>
<tr>
<td></td>
<td>Wetland Size Distribution</td>
</tr>
<tr>
<td>Habitat Characteristics</td>
<td>Wetland Archetype Distribution</td>
</tr>
<tr>
<td></td>
<td>Habitat Diversity</td>
</tr>
<tr>
<td></td>
<td>Transition Zones</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Hydrological Connectivity</td>
</tr>
<tr>
<td>Condition</td>
<td>Wetland Condition</td>
</tr>
</tbody>
</table>

Ultimately achieve an interconnected mosaic of 15,500 acres (6,273 ha) of wetlands of representative sizes and types
Aliso Creek Estuary as a Prototype for Site-based Planning in the Regional Context

• Excellent example of a small creek estuary

• High restoration potential
  – Intact linkages with watershed and ocean

• Engaged local community

• Few examples of small creek estuary restoration

• Opportunity to demonstrate how regional objectives can apply to site-specific restoration planning
Science Advisory Committee

• Provide input on restoration goals for Aliso Creek Estuary
• Explore options in a relatively unconstrained manner
• Demonstrate how project specific goals can support and be informed by, and support regional wetland goals
Aliso Creek Estuary Restoration Goals

1. Promote resiliency by basing restoration on historically-informed ecosystem processes in consideration of climate change effects
2. Develop a long-term management strategy that is proactive, adaptive, minimally intrusive and process based
3. Develop restoration priorities that support the Wetland Recovery Project regional strategy
4. Promote the use of Aliso Estuary for research, education and community engagement
Aliso Creek Estuary Restoration Plan Public Meeting

Aliso Creek Estuary Restoration Project Area
Property Ownership

- South Coast Water District
- The Ranch at Laguna Beach
- County of Orange
- Caltrans

Color codes:
- Residential
- County of Orange
- Laguna Beach Golf and Bungalow Villas
- South Coast County Water District

Feet scale: 0 to 200
Existing Habitats
Water Quality Conditions

Open: March – May 2016
- Ocean water influence

Closed: June – July 2016
- Stratification
- Low dissolved oxygen
Historic Map and Ecology – 1885

Source: SFEI, SGCWRP, CSUN
Historic Map and Ecology – 1885

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Historic Map and Ecology – 1885

Source: SFEI, SCCWRP, CSUN
Historic Habitats
Aliso Creek Watershed

- 35 square mile watershed
- Water Quality Improvement Plan in progress
Aliso Creek Hydrology Modifications

- Historically, Aliso Creek was ephemeral creek with little to no flow during the dry season
- Today, Aliso Creek flows year round due to irrigation in the watershed and carries more water and nutrients to the Estuary
## Summary of Aliso Creek Estuary Condition

<table>
<thead>
<tr>
<th>Ecosystem Characteristic</th>
<th>Current Condition</th>
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<tbody>
<tr>
<td><strong>Wetland Extent</strong></td>
<td>Historic filling and channelization</td>
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<td><strong>Mouth Dynamics</strong></td>
<td>Artificial breaching of mouth</td>
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<tr>
<td><strong>Dry-weather Creek Flow</strong></td>
<td>Increased flows from developed watershed</td>
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<td><strong>Ecosystem Condition</strong></td>
<td>Loss of habitat, functions, and wildlife</td>
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# Summary of Aliso Creek Estuary Condition and Restoration

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<tr>
<th>Ecosystem Characteristic</th>
<th>Current Condition</th>
<th>Restoration Actions</th>
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<tr>
<td>Wetland Extent</td>
<td>Historic filling and channelization</td>
<td>Restore and expand wetlands</td>
</tr>
<tr>
<td>Mouth Dynamics</td>
<td>Artificial breaching of mouth</td>
<td>Reduce artificial breaching</td>
</tr>
<tr>
<td>Dry-weather Creek Flow</td>
<td>Increased flows from developed watershed</td>
<td>Reduce dry-weather flows and improve water quality</td>
</tr>
<tr>
<td>Ecosystem Condition</td>
<td>Loss of habitat, functions, and wildlife</td>
<td>Restore habitat, functions, and vegetation for wildlife</td>
</tr>
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Development of the Estuary Restoration Plan

- Goals and objectives
- Opportunities and constraints
- Alternatives
- Analysis and assessment of alternatives
- Preferred plan
- Public use options
- Stakeholder coordination with partners and agencies
Conceptual Estuary Restoration Plan

- Upland Coastal Sage Scrub Restoration
- Vegetated Marsh Restoration
- Approximate Top of Slope
- ALISO CREEK
- Eastern Estuary Expansion
- Reduce Dry-Weather Creek Inflow Through Watershed Management
- Adaptive Management Program
- Expanded Bridge
- Reduce Artificial Breaching
- Western Estuary Expansion
Conceptual Estuary Restoration Plan
Near-term Phases
Public Use Options

- Parking Lot (76 Spaces)
  - 42 Standard
  - 30 Compact
  - 4 Accessible
- Visitor Center and Restrooms (35 ft. x 60 ft.)
- Restoration Overlook
- Connector Trail
- Approximate Top of Slope

Option C
- Pedestrian Bridge
- Connector Boardwalk

Option D
- Pedestrian Bridge
- Boardwalk
- Connector Trail

Option A
- Signalized Pedestrian Crossing
- Option B
- Pedestrian Bridge
- Existing Stairs and Tunnel

Relocate Picnic Area
- Narrow Existing Park Entrance
- Relocate Playground

Potential to Reconfigure Existing Parking Lot (+20 Spaces)

- Low Growing Upland
- Upland Coastal Sage Scrub Restoration
- Vegetated Marsh Restoration

- Existing Soft Surface Trail
- Parking Lot (12 Spaces)
  - 2 Accessible
  - 10 Standard
Restored Estuary Habitats

Vegetated Marsh

Beach Berm and Open Water

Riparian
Estuary Wetland Plants

Pickleweed

Cattail

Spiny Rush

Tule
Estuary Wildlife

Spotted Sandpiper

Yellow Warbler

Long-Billed Curlew

Great Egret

Brown Pelican

Southern California Steelhead

Tidewater Goby
Adaptive Management Program

Components

- Dry-weather flow
- Artificial breaching
- Vegetation
- Wildlife
- Public access

Adaptive Management Process

- Management Action
- Decision
- Monitor
- Assess
What is success?

- Physical processes similar to historic dynamics and support restored habitats
- Habitat structures and functions
- Resilient and diverse native wetland vegetation communities
- Wildlife use
- Public access, education, and stewardship support the restored estuary
How will the estuary change in the future?

- Sea-level rise
- Beach erosion
- Increase in beach berm height
- Increase in estuary water level
- Sediment deposition and accretion
- Wet-weather creek flows and sediment supply
Restoration Plan Next Steps

- Complete technical analyses and conceptual design
- Draft Conceptual Restoration Plan Report, December 2017
- Public and stakeholder review and comment, January 2018
- Final Conceptual Restoration Plan Report, January 2018
What comes next?

- Building partnerships
- Securing funding
- Environmental review (CEQA)
- Detailed design
- Regulatory permitting
- Phased implementation
Questions and Discussion
COMMENTS, QUESTIONS, KEEP IN TOUCH

Watch for updates

www.lagunaoceanfoundation.org

email

alisoestuary@lagunaoceanfoundation.org

Write to:

Laguna Ocean Foundation
P.O. Box 5247
Laguna Beach, CA 92652
THE ALISO CREEK ESTUARY CONCEPTUAL RESTORATION PLAN is funded by these generous donors

California Coastal Conservancy
An Anonymous Donor
Laguna Ocean Foundation
South Laguna Civic Association
Charlotte Masarik

Generous in-kind support has been provided by

The Ranch at Laguna Beach
Laguna Ocean Foundation

The Aliso Creek Estuary Conceptual Restoration Plan is a fiscally-sponsored project of the Ocean Foundation
WE CAN’T THANK YOU ENOUGH!!

The Ranch
Victoria Skimboards
GoElev8
Pixus Group
Voda Films
Hemingwave

Jeff Marino and His Team
Paul Porter & Anna Marie
The Shorebird Team
Holly Fuhrer
Peter Fuhrer
Peter & Portia Bryant
“Bill” at Newport Aquatic Center
Amir Baum
Jessica Ballard
Deborah Ruddock
Blair Conklin
Morgan Just
Amber Torrealba
John Weber & Gabby
Sky Hardison
JJ Wessels
Mike Little
Aris Ford
Tex & Lynn Haines
Denise & Rick Erkeneff
Scott Thomas
Greg Gauthier
Charlotte Masarik
Bill Roley
Roger Butow

Rick Wilson
Cameron Swift
Eric Jessen
John Petig
Dwight Mudry
Aaron Peluso
Susan Brodeur
Joe McDivitt
Rick Shintaku
Stacy Blackwell
Erica Ryan
Dave Gibson
Dave Cannon @ Everest Int'l

The Wetlands Recovery Project
Surfrider Foundation
Laguna Ocean Foundation Docents
Laguna Ocean Foundation Educators
State Senator Pat Bates
Orange County Supervisor Lisa Bartlett, 5th District
County of Orange Parks Department
South Coast H20 District
SOCWA
San Diego Regional Water Quality Control Board
City of Laguna Beach City Council

And all the beautiful people of the Aliso Creek Watershed